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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/664,628	09/19/2003	Kenji Inoue	KIN90USA	5070

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EXAMINER

PIZIALI, ANDREW T

ART UNIT PAPER NUMBER

1771

DATE MAILED: 03/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/664,628

Applicant(s)

INOUE, KENJI

Examiner

Andrew T. Piziali

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5 and 7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,5 and 7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The RCE filed on 1/19/2006 has been entered. The amendment filed on 12/15/2005 has been entered. The examiner has withdrawn the 35 U.S.C. 112 rejections based on the amendments to the claims.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,383,339 to Gstrein in view of USPN 6,605,188 to Hagfors in view of any one of USPN 4,500,588 to Lundstrom or USPN 4,529,643 to Lundstrom.

Regarding claims 1 and 5, Gstrein discloses a wet paper web transfer belt comprising a base body, a wet paper web side layer having a wet paper web-contacting surface, and a machine side layer, said belt having fibers, parts of which are embedded and protrude from said web-contacting surface (see entire document including column 1, lines 39-67 and Figures 1-4).

Gstrein is silent with regards to specific fiber lengths, therefore, it would have been obvious to look to the prior art for conventional fiber lengths. Hagfors provides this conventional teaching showing that it is known in the papermaking belt art to use fibers with an average protruding height of between 0.001 to 0.03 mm (column 4, lines 17-40). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was

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made to make the fibers protrude between 0.001 to 0.03 mm motivated by the expectation of successfully practicing the invention of Gstrein.

Gstrein discloses that a variety of polymers may be used to create the polymer layer (column 2, lines 4-6), but Gstrein does not specifically mention the use of an elastic polymer. The Lundstrom references ('588 and '643) each disclose that it is known in the papermaking art to use an elastomeric polymer material because some applications require a higher compressibility (see entire documents including column 3, lines 17-25 of '643 and column 3, lines 57-65 of '588). It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the polymer layer from any suitable polymeric material, such as an elastic polymer, because some applications require a higher compressibility and because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability.

Regarding claim 5, Gstrein discloses that the protruding parts of the fibers are formed by processing (needling) the surface of the fabric (column 4, lines 57-60).

4. Claims 3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,383,339 to Gstrein in view of USPN 6,605,188 to Hagfors in view of any one of USPN 4,500,588 to Lundstrom or USPN 4,529,643 to Lundstrom as applied to claims 1 and 5 above, and further in view of USPN 5,849,395 to Valentine et al. (hereinafter referred to as Valentine).

Regarding claims 3 and 7, Gstrein is silent with regards to specific fiber densities, therefore, it would have been necessary and thus obvious to look to the prior art for conventional fiber densities. Valentine provides this conventional teaching showing that it is known in the papermaking art to use high fiber densities to reduce brittleness (see entire document including

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the paragraph bridging columns 1 and 2). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the fiber density high, such as from 10 to 500,000 fibers/cm², motivated by the expectation of successfully practicing the invention of Gstrein and/or to reduce brittleness.

Regarding claim 7, Gstrein discloses that the protruding parts of the fibers are formed by processing (needling) the surface of the fabric (column 4, lines 57-60).

5. Claims 1 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,605,188 to Hagfors in view of any one of USPN 4,500,588 to Lundstrom or USPN 4,529,643 to Lundstrom.

Regarding claims 1 and 5, Hagfors discloses a wet paper web transfer belt comprising a base body, a wet paper web side layer having a wet paper web-contacting surface, and a machine side layer, said belt having fibers, parts of which are embedded and protrude from said web-contacting surface (see entire document including column 2, lines 23-53 and Figure 1). Hagfors discloses that the fibers may have an average protruding height of between 0.001 to 0.03 mm (column 4, lines 17-40).

In the event that it is shown that Hagfors does not teach or suggest the claimed protruding fiber length, it would have been obvious to one having ordinary skill in the art at the time the invention was made to vary the protruding fiber length, such as from 0.01 to 3 mm, because it is understood by one of ordinary skill in the art that the protruding material affects the ability of the transfer belt to detach a fiber web and because it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art.

Hagfors discloses that a variety of polymers may be used to create the polymer layer, including polyurethane (column 3, lines 21-25), but Hagfors does not specifically mention the use of an elastic polymer. The Lundstrom references ('588 and '643) each disclose that it is known in the papermaking art to use an elastomeric polymer material because some applications require a higher compressibility (see entire documents including column 3, lines 17-25 of '643 and column 3, lines 57-65 of '588). It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the polymer layer from any suitable polymeric material, such as an elastic polymer, because some applications require a higher compressibility and because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability.

Regarding claim 5, Hagfors discloses that the protruding parts of the fibers are formed by processing (grounding) the surface of the fabric (column 1, lines 57-67).

6. Claims 3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,605,188 to Hagfors in view of any one of USPN 4,500,588 to Lundstrom or USPN 4,529,643 to Lundstrom as applied to claims 1 and 5 above, and further in view of USPN 5,849,395 to Valentine.

Regarding claims 3 and 7, Hagfors is silent with regards to specific fiber densities, therefore, it would have been necessary and thus obvious to look to the prior art for conventional fiber densities. Valentine provides this conventional teaching showing that it is known in the papermaking art to use high fiber densities to reduce brittleness (see entire document including the paragraph bridging columns 1 and 2). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the fiber density high, such as

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from 10 to 500,000 fibers/cm², motivated by the expectation of successfully practicing the invention of Hagfors and/or to reduce brittleness.

Regarding claim 7, Hagfors discloses that the protruding parts of the fibers are formed by processing (grounding) the surface of the fabric (column 1, lines 57-67).

Response to Arguments

7. Applicant's arguments filed 1/19/2006 have been fully considered but they are not persuasive.

The applicant asserts that Hagfors does not teach or suggest the claimed protruding fiber length because the Ra value says nothing about the average length of any protruding parts of the fibers. The examiner respectfully disagrees. Hagfors clearly discloses that polymer layer surface is ground to a suitable roughness thereby exposing fiber portions (column 2, lines 47-49). Hagfors discloses that said fiber portions are responsible for the disclosed roughness (column 1, lines 64-67). Hagfors discloses that an average surface roughness (Ra) of between 0.001 to 0.03 mm is advantageous (column 4, lines 25-27). The average surface roughness is a measure of the average height variation in a surface. Therefore, Hagfors teaches that the average height of the protruding parts of said fibers is between 0.001 to 0.03 mm. Considering that the average height of the protruding fibers is between 0.001 to 0.03 mm, and considering that said average height is due to the surface being ground, it appears that the average length of the protruding parts of the fibers would also be about 0.001 to 0.03 mm because the grounding would not allow protruding fiber portions of any substantial length.

The Patent and Trademark Office can require applicants to prove that prior art products do not necessarily or inherently possess characteristics of claimed products where claimed and

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prior art products are identical or substantially identical, or are produced by identical or substantially identical processes; burden of proof is on applicants where rejection based on inherency under 35 U.S.C. § 102 or on prima facie obviousness under 35 U.S.C. § 103, jointly or alternatively, and Patent and Trademark Office's inability to manufacture products or to obtain and compare prior art products evidences fairness of this rejection, *In re Best, Bolton, and Shaw*, 195 USPQ 431 (CCPA 1977).

In the event that it is shown that Hagfors does not teach or suggest the claimed protruding fiber length, it would have been obvious to one having ordinary skill in the art at the time the invention was made to vary the protruding fiber length, such as from 0.01 to 3 mm, because it is understood by one of ordinary skill in the art that the protruding material affects the ability of the transfer belt to detach a fiber web and because it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. USPN 5,298,124 to Eklund et al. is cited to further show (in addition to the teachings of Hagfors) that it is known in the transfer belt art to vary the surface roughness of a transfer belt to in order to break up the strength of the water film (see entire document including column 8, lines 29-33).

The applicant asserts the Ra value is related to the roughness of the abrasive agent and the fiber finesses, rather than the length of the protruding fiber portions, because Hagfors discloses that the surface roughness can be controlled by the roughness of the abrasive agent and the degree of fiber fineness (column 1, line 67 through column 2, line 2). The examiner respectfully disagrees. Hagfors is simply teaching that the roughness of the abrasive agent and/or the degree of fiber fineness effect the average length of the protruding parts of the surface fibers. For example, the smaller the fiber fineness (weaker fibers) and/or the greater the abrasive

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roughness (stronger the abrasive) the smaller the protruding fiber length because the fibers would be more prone to abrasive eroding.

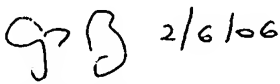
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T. Piziali whose telephone number is (571) 272-1541. The examiner can normally be reached on Monday-Friday (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

atp


ANDREW T. PIZIALI
PATENT EXAMINER